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TABLE 1
Anti-TNF Therapy can Effectively Prevent Mortality during Acute DSS-
Induced Colitis in Mice

Treatment	No. of survivors/no. tested	% Survival
Untreated	22/42	52
Preimmune	5/10	50
Anti-TNF	10/10	100

TABLE 2

Anti-TNF Therapy can Effectively Prevent Bloody Stools during Acute DSS-Induced Colitis in Mice

Treatment	No. of Hemocult positive/no. tested	% Hemocult positive
Untreated	13/15	87
Preimmune	12/13	92
Anti-TNF	3/14	21

TABLE 3
Anti-TNF Therapy can Effectively Treat Acute DSS-Induced Colitis in Mice

Treatment	No. of survivors/no. tested	% Survival	% Diarrhea
Untreated	8/15	53	87
Preimmune	4/13	31	92
Anti-TNF	13/14	93	21

Figure 1

Anti-TNF IgY has Greater Neutralization Activity than Remicade in a Cell-Based Assay

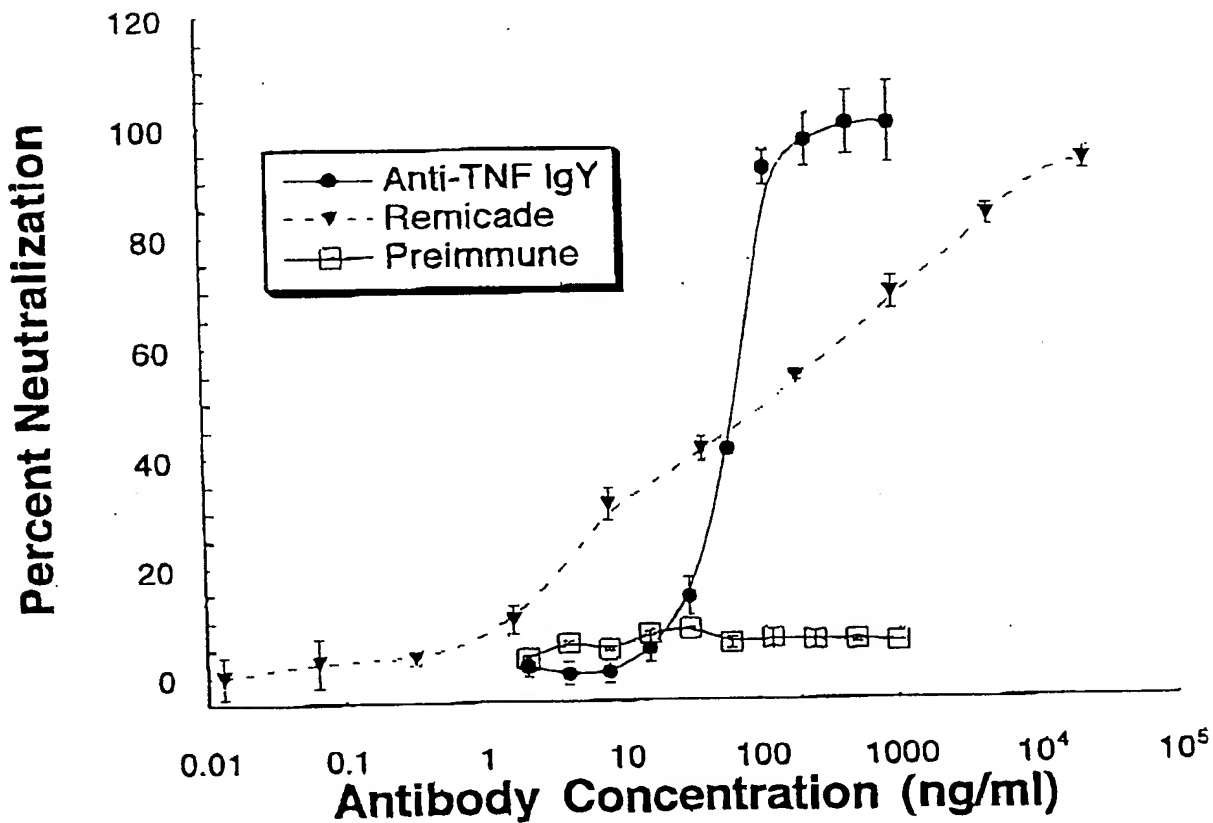
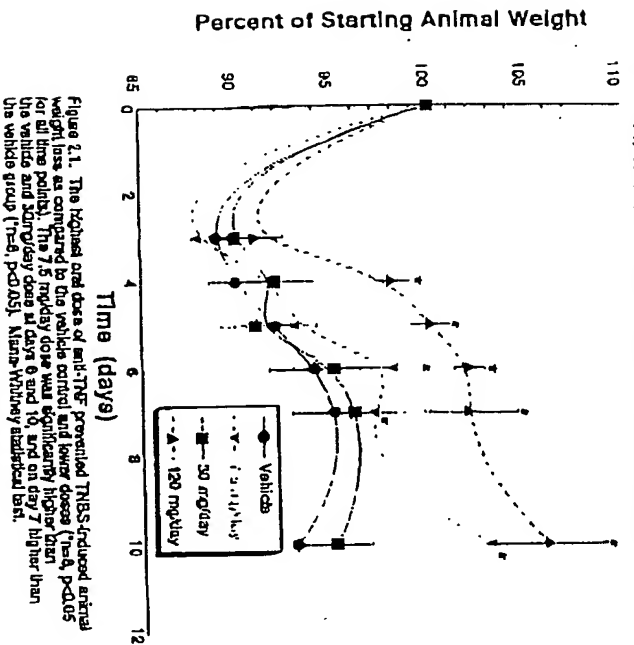


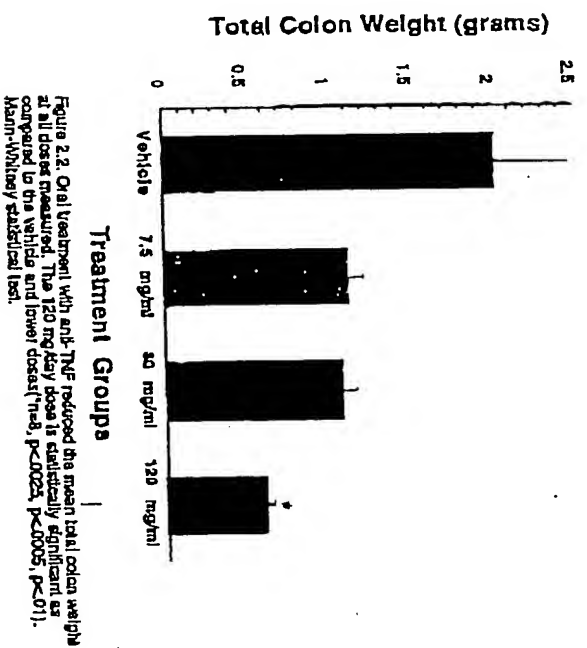
Figure 1.1. The L929 cell based assay shows the greater neutralization ability of anti-TNF IgY as compared to Remicade. The dose of antibody which prevents 50 percent of the cytotoxicity associated with TNF (ND50) is 70 ng/ml for the anti-TNF IgY, and 140 ng/ml for Remicade. Note: The concentrations graphed for the Remicade antibody represent the total amount of specific antibody, whereas the anti-TNF IgY concentrations represent total IgY concentrations, not specific for TNF.

Figure 2

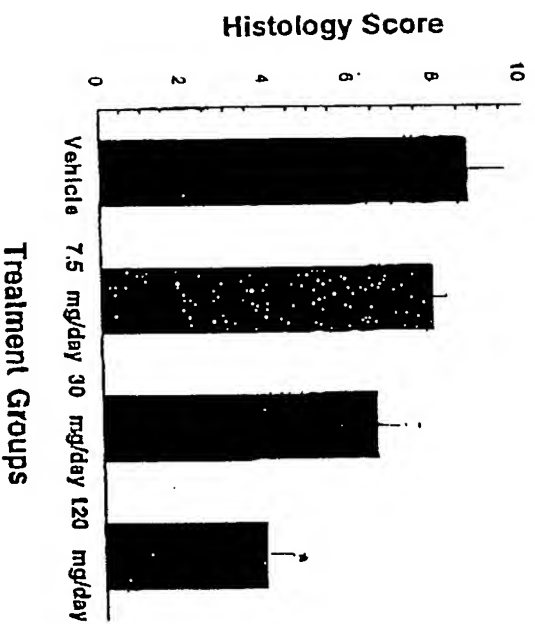
Treatment of Crohn's Disease by Various Doses of Anti-TNF in the TNBS Animal Model



Treatment of Crohn's Disease by Various Doses of Anti-TNF in the TNBS Animal Model



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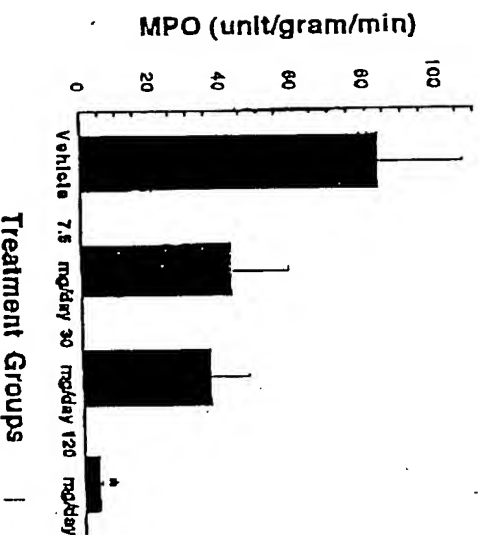


Figure 3

**Treatment of Crohn's Disease by Anti-TNF
in the TNBS Animal Model**

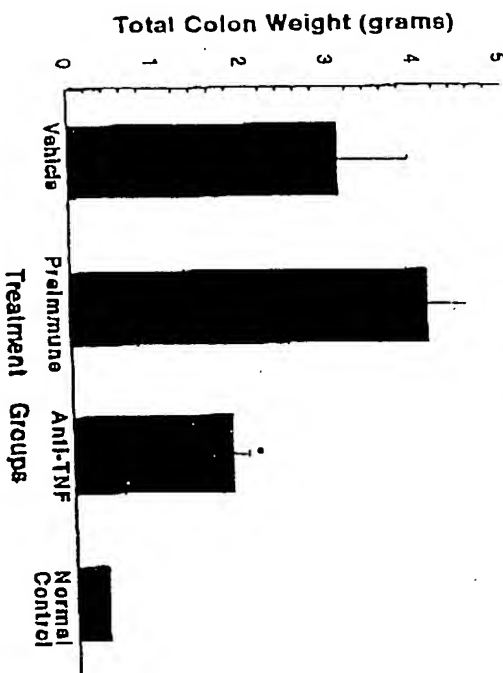


Figure 3.1. Oral delivery of anti-TNF antibodies reduced colonic weight gain associated with TNBS treatment. The anti-TNF reduction was statistically significant as compared to the preimmune treated control ($n=8$, $p<0.001$). Mann-Whitney statistical test.

**Treatment of Crohn's Disease by Anti-TNF
in the TNBS Animal Model**

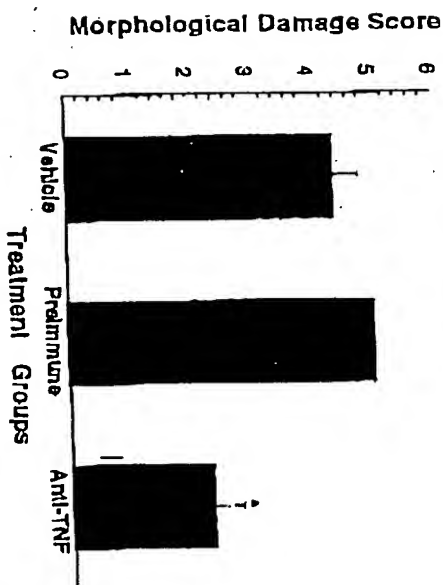


Figure 3.2. Oral delivery of anti-TNF reduced histological damage for rats treated with TNBS as compared to vehicle ($n=7$, $p<0.05$) and preimmune controls ($n=8$, $p<0.001$). Normal control was zero. Mann-Whitney statistical test.

**Treatment of Crohn's Disease by Anti-TNF
in the TNBS Animal Model**

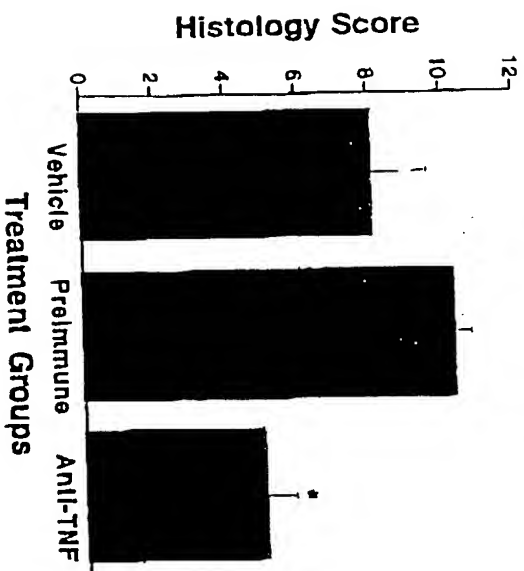


Figure 3.3. Treatment with anti-TNF reduces histological damage as compared to the vehicle and preimmune control animals ($n=7$, $p<0.05$ and $p<0.0025$ respectively). Mann-Whitney statistical test.

**Treatment of Crohn's Disease by Anti-TNF
in the TNBS Animal Model**

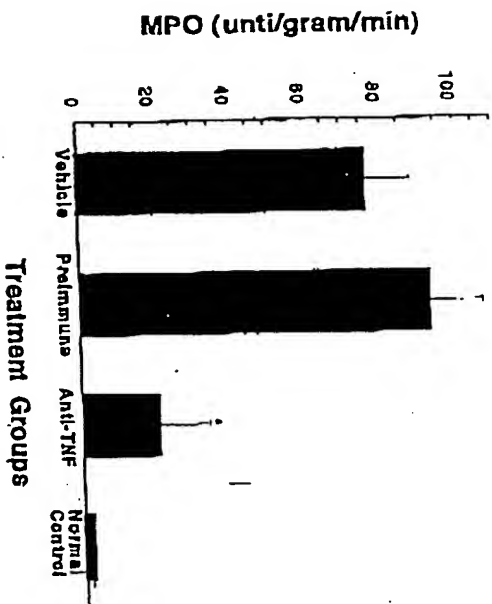


Figure 3.4. Oral delivery of anti-TNF antibodies significantly reduced the level of tissue myeloperoxidase after rat treatment with TNBS as compared to the preimmune ($n=6$, $p<0.01$) and the vehicle controls ($n=7$, $p<0.05$). Mann-Whitney statistical test.

Figure 4

Treatment of Crohn's Disease by Anti-TNF is more Effective than Sulfasalazine in the TNBS Animal Model

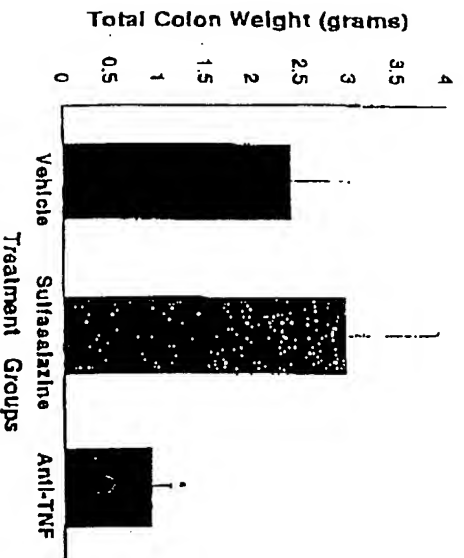


Figure 4.1. Oral administration of anti-TNF antibodies to rats 48 hours post treatment with TNBS significantly decreased disease associated colon weight gain as compared to vehicle treated animals ($p < 0.05$). Saw no improvement over controls. Mann-Whitney statistical test.

Treatment of Crohn's Disease by Anti-TNF is more Effective than Sulfasalazine in the TNBS Animal Model

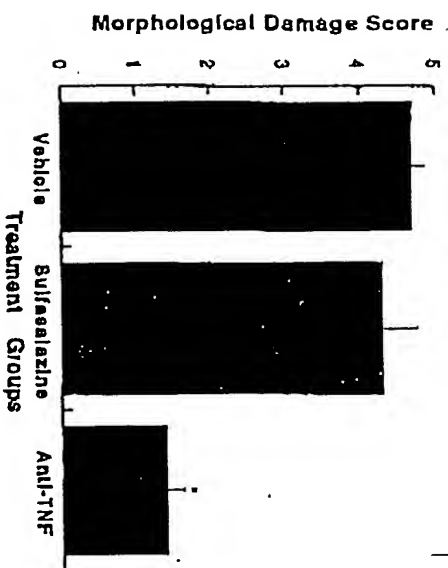


Figure 4.2. Oral administration of anti-TNF antibodies to rats 48 hours post treatment with TNBS significantly decreased morphological damage as compared to the vehicle control ($p < 0.002$) and sulfasalazine group ($p < 0.005$). Mann-Whitney statistical test.

Treatment of Crohn's Disease by Anti-TNF is more Effective than Sulfasalazine in the TNBS Animal Model

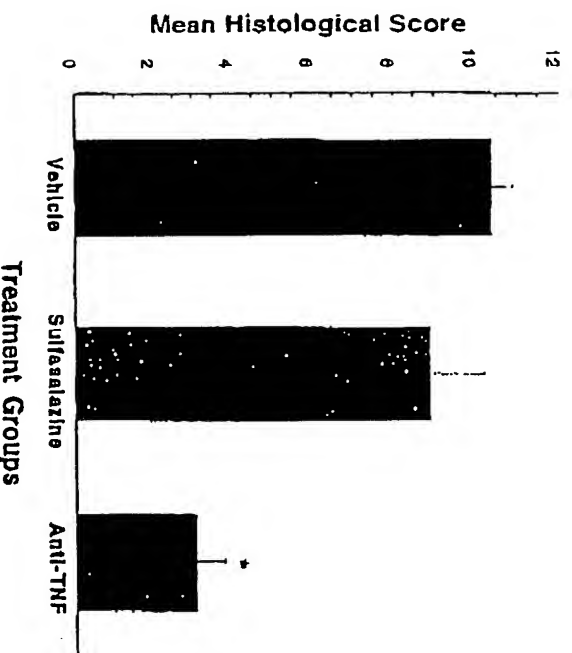


Figure 4.3. Treatment with anti-TNF significantly reduces histological damage as compared to the sulfasalazine and vehicle treated controls ($p < 0.01$ and $p < 0.001$ respectively). Mann-Whitney statistical test.

Treatment of Crohn's Disease by Anti-TNF is more Effective than Sulfasalazine in the TNBS Animal Model

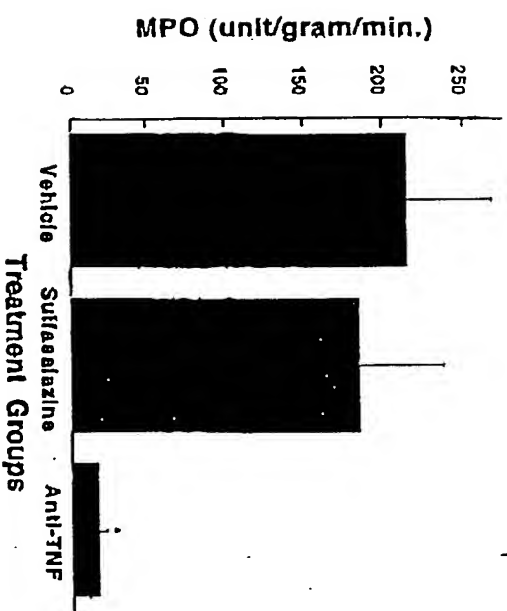


Figure 4.4. Oral administration of anti-TNF antibodies to rats 48 hours post TNBS treatment significantly reduced the tissue myeloperoxidase as compared to vehicle ($p < 0.002$) and sulfasalazine ($p < 0.002$). Mann-Whitney statistical test.

Figure 5

Treatment of Crohn's Disease by Anti-TNF is more Effective than Dexamethasone in the TNBS Animal Model

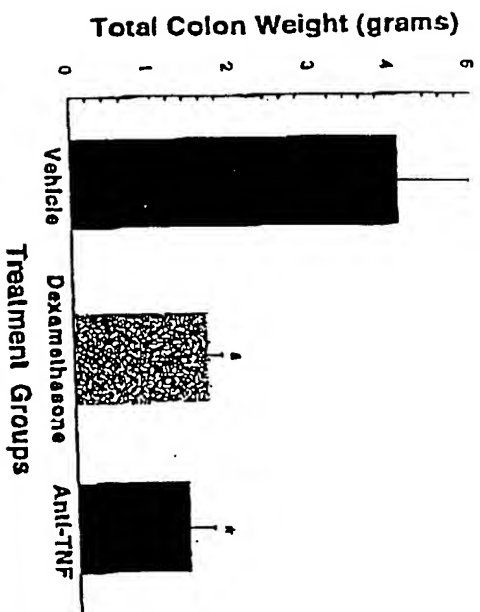


Figure 5.1. Oral administration of anti-TNF and dexamethasone significantly reduce total colon weight as compared to the vehicle control (n=8, p<0.005 and p<0.05 respectively). Mann-Whitney statistical test.

Treatment of Crohn's Disease by Anti-TNF is more Effective than Dexamethasone in the TNBS Animal Model

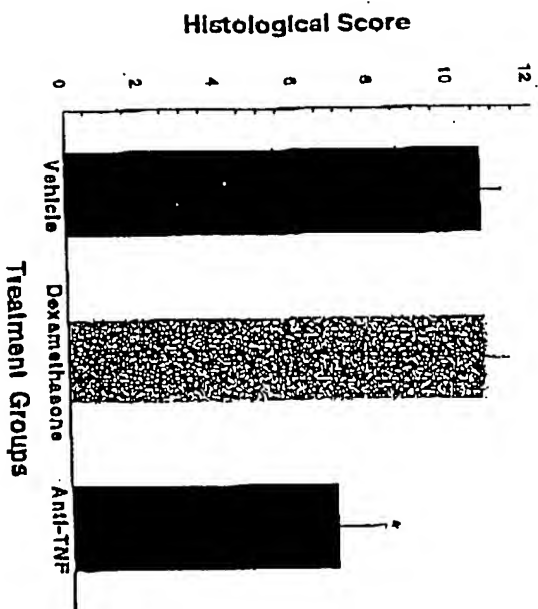


Figure 5.3. Oral administration with anti-TNF significantly reduces histological damage as compared to the dexamethasone and vehicle treated animals (n=6, p<0.001 and p<0.01). Mann-Whitney statistical test.

Treatment of Crohn's Disease by Anti-TNF is more Effective than Dexamethasone in the TNBS Animal Model

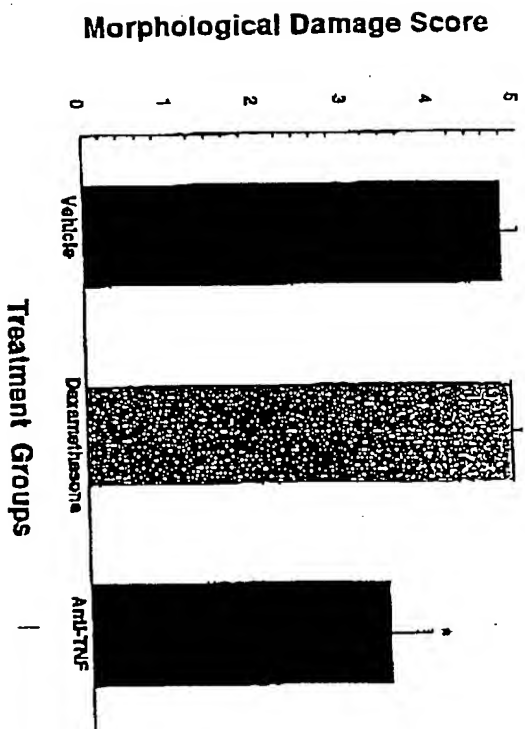


Figure 5.2. Oral administration with anti-TNF significantly reduces morphological damage as compared to the vehicle and dexamethasone treated groups (n=8, p<0.05 and p<0.025 respectively). Mann-Whitney statistical test.

Treatment of Crohn's Disease by Anti-TNF is more Effective than Dexamethasone in the TNBS Animal Model

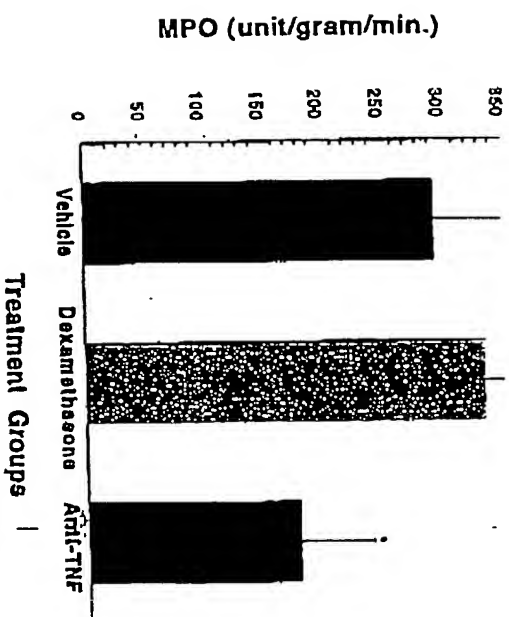


Figure 5.4. Oral administration of anti-TNF significantly reduces myeloperoxidase levels as compared to dexamethasone treated animals (n=6, p<0.05). Mann-Whitney statistical test.

Figure 6

In the Chronic TNBS Animal Model

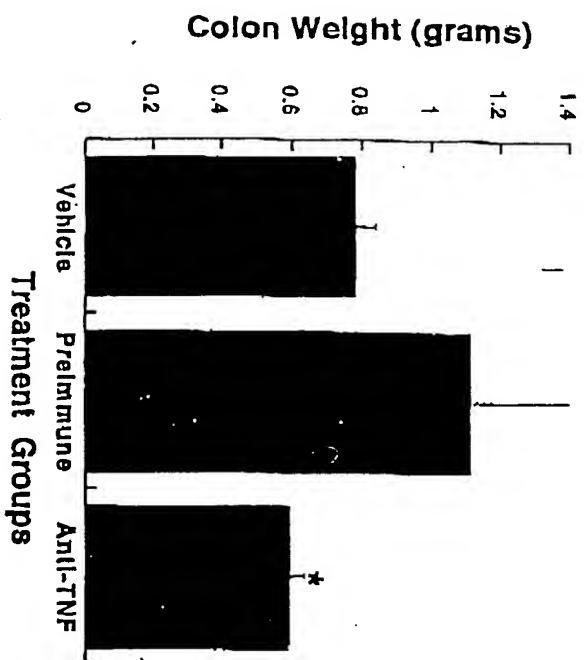


Figure 6.1. Oral treatment with anti-TNF significantly decreases the colon weight as compared to the vehicle and preimmune controls (* $p < 0.025$ Vs. vehicle and preimmune) Mann-Whitney statistical test.

**Treatment of Crohn's Disease by Anti-TNF
In the Chronic TNBS Animal Model**

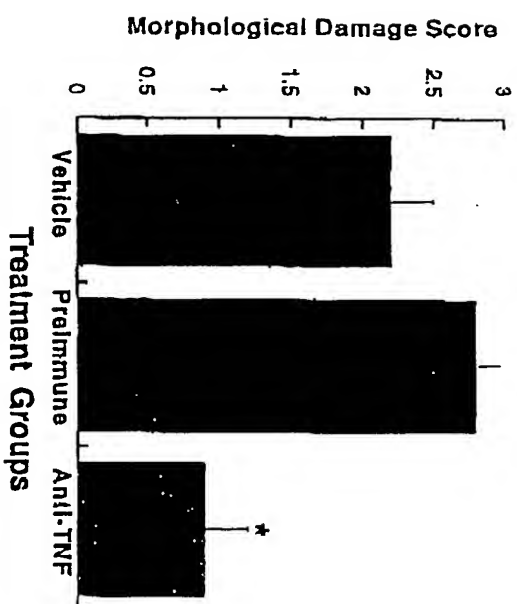


Figure 6.2. Oral treatment with anti-TNF significantly decreases morphological damage as compared to the vehicle and preimmune controls (* $p < 0.025$ Vs. vehicle and preimmune). Mann-Whitney statistical test.

**Treatment of Crohn's Disease by Anti-TNF
In the Chronic TNBS Animal Model**

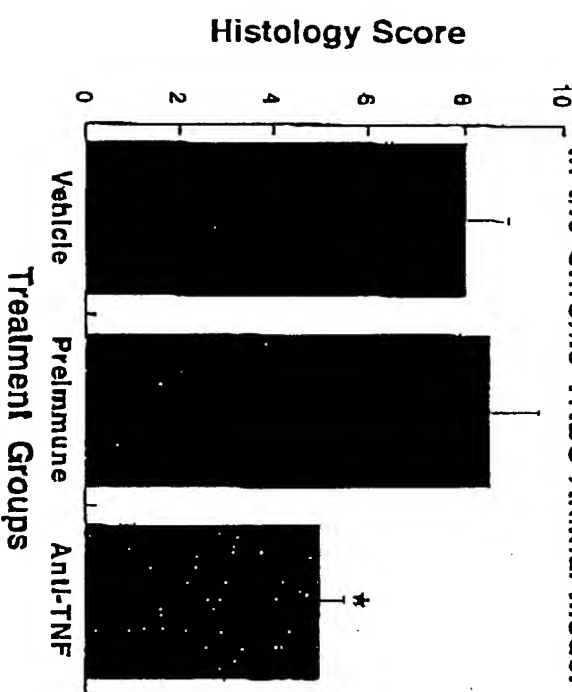


Figure 6.3. Oral treatment with anti-TNF significantly decreases the microscopic damage as compared to the vehicle and preimmune controls (* $p < 0.025$ and $p < 0.01$ respectively). Mann-Whitney statistical test.

Figure 7

Treatment of Ulcerative Colitis by Anti-TNF in the DSS Animal Model

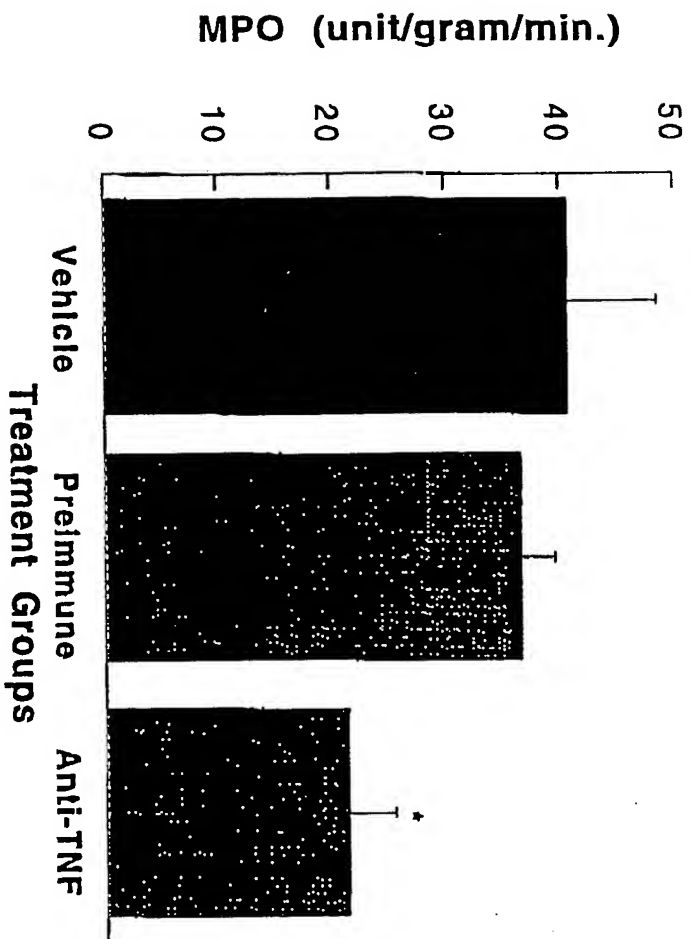


Figure 7.1. Intrarectal delivery of anti-TNF antibodies beginning day 3 of a 7 day DSS treatment regimen significantly reduces tissue myeloperoxidase levels as compared to preimmune control (n=5, *p<0.05), but not the vehicle control (n=10, *p<0.2) Mann-Whitney statistical test.

Figure 8

Treatment of Ulcerative Colitis by Anti-TNF in the DSS Animal Model

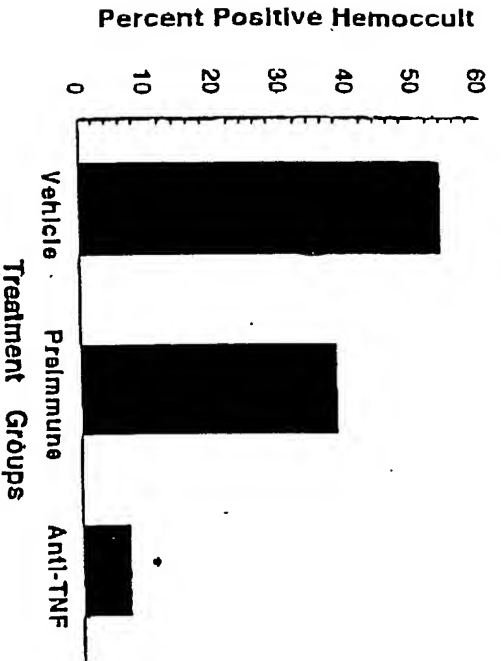


Figure 8.1. Intrarectal delivery with anti-TNF after 5 days of DSS treatment significantly reduced occult blood found in the stool of DSS treated mice as compared to the vehicle control. (*p<0.05) Chi-squared statistic

Treatment of Ulcerative Colitis by Anti-TNF in the DSS Animal Model

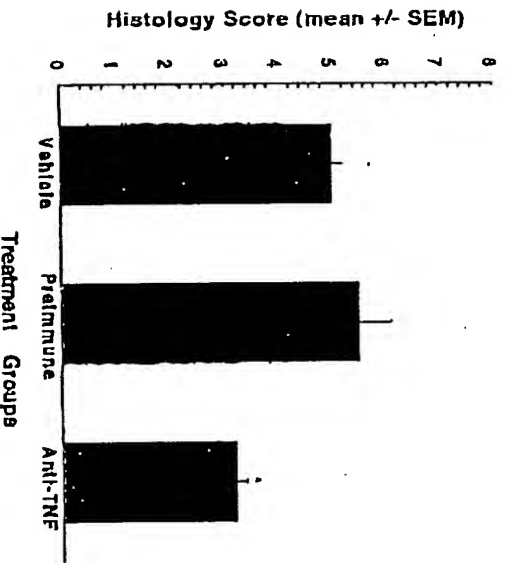


Figure 8.2. Intrarectal treatment with anti-TNF antibodies after 5 days of DSS treatment significantly reduced histological damage as compared to vehicle control (*p<0.02) and preliminary controls (*p<0.05). Mann-Whitney statistical test.

Treatment of Ulcerative Colitis by Anti-TNF in the DSS Animal Model

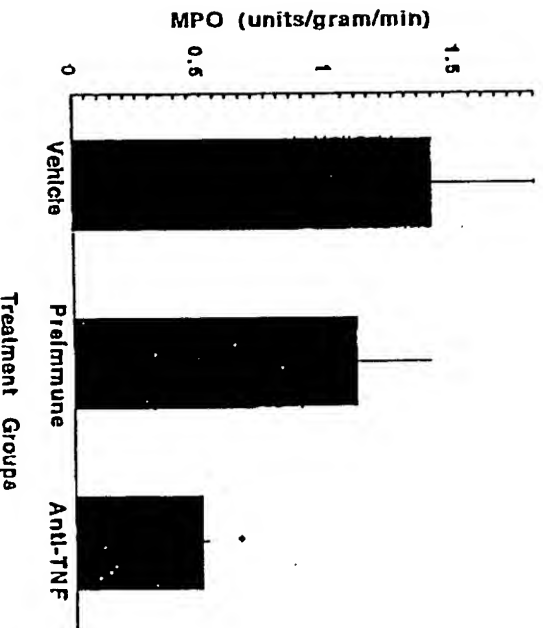


Figure 8.3. Intrarectal delivery of anti-TNF antibodies after 5 days of DSS treatment decreased tissue myeloperoxidase levels as compared to the vehicle control (*p<0.05) and the preliminary control (*p<0.05). Mann-Whitney statistical test.

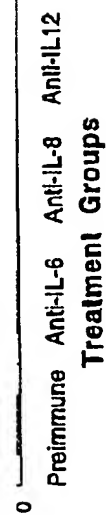


Figure 11.3. Oral treatment with anti-IL-6, 8, and 12 decreased the histological damage from TNBS, as compared to the preimmune control. Only anti-IL-6 treatment was statistically significant ^{*}(n=6, p=0.05).

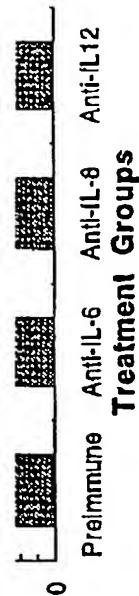


Figure 11.4. Oral treatment with anti-IL-6, 8, and 12 decreased the tissue MPO levels. Anti-IL-8 significantly lowered the MPO as compared to the preimmune control ^{*}(n=8, p=0.05).

Figure 12

Acute Model of IBD: Weight Data

